

RECEIVED
CENTRAL FAX CENTER
APR 24 2007

Docket No. 740756-2709
Application No. 10/769,820
Page 2

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A laser irradiation stage comprising a surface having a cylindrical shape curvature in a single direction on which an object to be irradiated by a beam is placed,

wherein the beam is expanded in the single direction,

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface, and

~~wherein the stage is incorporated into a laser irradiation apparatus~~

wherein the surface has a side length on the order of 1 m.

2. (Currently Amended) A laser irradiation stage comprising a surface having a concave shape curvature on which an object to be irradiated by a beam is placed,

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface,

~~wherein the stage is incorporated into a laser irradiation apparatus~~ wherein the surface has a side length on the order of 1 m, and

wherein radius of the curvature with respect to a certain focal length of a condenser lens falls within a range of the following two equations:

$$y = 2539.3 \ln(x) - 21447;$$

$$y = 1666.7 \ln(x) - 13098,$$

where y (mm) is focal length of the condenser lens, x (mm) is the radius of the curvature.

3. (Currently Amended) A laser irradiation stage comprising a surface having a concave shape curvature in a single direction on which an object to be irradiated by a beam is placed,

Docket No. 740756-2709
Application No. 10/769,820
Page 3

wherein the beam is expanded in the single direction,
wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface, and

~~wherein the stage is incorporated into a laser irradiation apparatus~~

wherein the surface has a side length on the order of 1 m.

4. (Currently Amended) A laser irradiation apparatus comprising:

a laser oscillator;

a first means for expanding a laser beam emitted from the laser oscillator in a first direction;

a second means for condensing the laser beam in a second direction that is orthogonal to the first direction; and

a third means for providing an object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction with a laser beam irradiation surface and moving the laser beam irradiation surface in the second direction, relative to the laser beam[[:]],

wherein[[:]] the laser beam irradiation surface has a cylindrical shape curvature in a direction parallel to the first direction,[[and]]

~~wherein the third means comprises a [[first]] surface on which the object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction is placed;~~

~~the first surface having the cylindrical shape curvature in the direction parallel to the first direction, and having the cylindrical shape curvature in the first direction.~~

wherein the object to be irradiated is placed on the surface.

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface, and

wherein the surface has a side length on the order of 1 m.

5. (Currently Amended) A laser irradiation apparatus comprising:

a laser oscillator;

Docket No. 740756-2709
Application No. 10/769,820
Page 4

a first means for expanding a laser beam emitted from the laser oscillator in a first direction;

a second means for condensing the laser beam in a second direction that is orthogonal to the first direction; and

a third means for providing an object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction with a laser beam irradiation surface and moving the laser beam ~~[[the]]~~ irradiation surface in the second direction, relative to the laser beam~~[[;]]~~.

wherein~~[[;]]~~ the laser beam irradiation surface has a concave shape curvature in a direction parallel to the first direction,

wherein the third means comprises a ~~[[first]]surface on which the object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction is placed, the first surface having the curvature in the direction parallel to the first direction, and~~ having the concave shape curvature.

wherein radius of the curvature with respect to a certain focal length of a condenser lens falls within a range of the following two equations:

$$y = 2539.3 \ln(x) - 21447;$$

$$y = 1666.7 \ln(x) - 13098,$$

where y (mm) is focal length of the condenser lens, x (mm) is the radius of the curvature, ~~[[and]]~~

wherein the object to be irradiated is placed on the surface.

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface, and

wherein the surface has a side length on the order of 1 m.

6. (Currently Amended) A laser irradiation apparatus comprising:

a laser oscillator;

a first means for expanding a laser beam emitted from the laser oscillator in a first direction;

a second means for condensing the laser beam in a second direction that is

Docket No. 740756-2709
Application No. 10/769,820
Page 5

orthogonal to the first direction; and

a third means for providing an object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction with a laser beam irradiation surface and moving the laser beam irradiation surface in the second direction, relative to the laser beam[[:]],

wherein[[:]] the laser beam irradiation surface has a concave ~~eylindrical~~-shape curvature in a direction parallel to the first direction, [[and]]

wherein the third means comprises a [[first]]surface-on which the object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction is placed, the first surface having the concave cylindrical shape curvature in the direction parallel to the first direction, and having the concave shape curvature.

wherein an object to be irradiated is placed on the surface.

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface, and

wherein the surface has a side length on the order of 1 m.

7. (Original) A laser irradiation apparatus according to claim 4, wherein the first means contains a cylindrical lens array or a cylindrical lens.

8. (Original) A laser irradiation apparatus according to claim 5, wherein the first means contains a cylindrical lens array or a cylindrical lens.

9. (Original) A laser irradiation apparatus according to claim 6, wherein the first means contains a cylindrical lens array or a cylindrical lens.

10. (Original) A laser irradiation apparatus according to claim 4, wherein the second means contains a cylindrical lens array or a cylindrical lens.

11. (Original) A laser irradiation apparatus according to claim 5, wherein the second means contains a cylindrical lens array or a cylindrical lens.

Docket No. 740756-2709
Application No. 10/769,820
Page 6

12. (Original) A laser irradiation apparatus according to claim 6, wherein the second means contains a cylindrical lens array or a cylindrical lens.

13. (Original) A laser irradiation apparatus according to claim 4, wherein the laser oscillator is an excimer laser, a YAG laser, a YVO₄ laser, a YLF laser, a YAlO₃ laser, or a glass laser.

14. (Original) A laser irradiation apparatus according to claim 5, wherein the laser oscillator is an excimer laser, a YAG laser, a YVO₄ laser, a YLF laser, a YAlO₃ laser, or a glass laser.

15. (Original) A laser irradiation apparatus according to claim 6, wherein the laser oscillator is an excimer laser, a YAG laser, a YVO₄ laser, a YLF laser, a YAlO₃ laser, or a glass laser.

16-30. (Cancelled)

31. (New) A laser irradiation stage according to claim 1, further comprising first and second pins provided in the surface, wherein height of the first and second pins are different from each other.

32. (New) A laser irradiation stage according to claim 2, further comprising first and second pins provided in the surface, wherein height of the first and second pins are different from each other.

33. (New) A laser irradiation stage according to claim 3, further comprising first and second pins provided in the surface, wherein height of the first and second pins are different from each other.

Docket No. 740756-2709
Application No. 10/769,820
Page 7

34. (New) A laser irradiation apparatus according to claim 4, wherein the third means further comprising first and second pins provided in the surface, wherein height of the first and second pins are different from each other.

35. (New) A laser irradiation apparatus according to claim 5, wherein the third means further comprising first and second pins provided in the surface, wherein height of the first and second pins are different from each other.

36. (New) A laser irradiation apparatus according to claim 6, wherein the third means further comprising first and second pins provided in the surface, wherein height of the first and second pins are different from each other.